

HD

9074

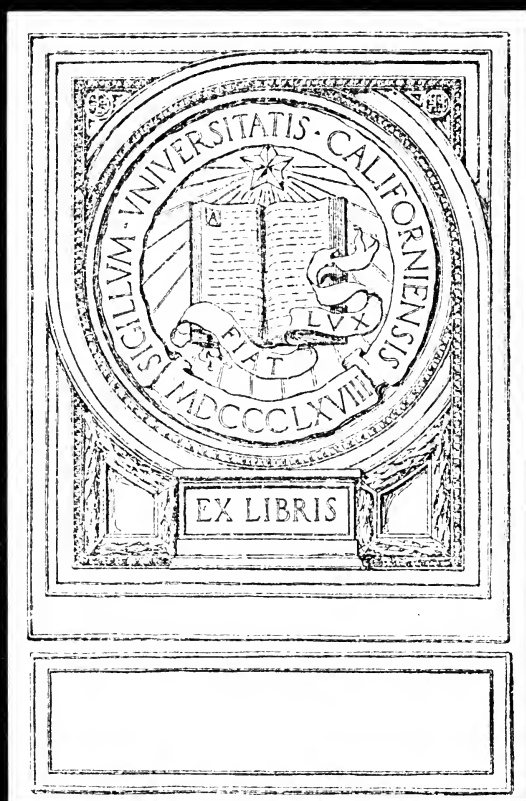
B3

UC-NRLF



\$B 94 123

YC 85650



THE COST OF COTTON PRODUCTION

SEASON, 1917-18

ESTABLISHED 1866

H. F. BACHMAN & Co.
BANKERS

1512 CHESTNUT STREET
PHILADELPHIA

61 BROADWAY
NEW YORK

Members of
NEW YORK STOCK EXCHANGE
NEW YORK COTTON EXCHANGE
NEW YORK COFFEE EXCHANGE
NEW YORK PRODUCE EXCHANGE
PHILADELPHIA STOCK EXCHANGE
CHICAGO BOARD OF TRADE

Associate Members of
LIVERPOOL COTTON ASSOCIATION

FEBRUARY 22, 1918

Digitized by the Internet Archive
in 2007 with funding from
Microsoft Corporation

THE COST OF COTTON PRODUCTION

SEASON, 1917-18

ESTABLISHED 1866

H. F. BACHMAN & Co.

BANKERS

**1512 CHESTNUT STREET
PHILADELPHIA**

**61 BROADWAY
NEW YORK**

Members of

NEW YORK STOCK EXCHANGE

NEW YORK COTTON EXCHANGE

NEW YORK COFFEE EXCHANGE

NEW YORK PRODUCE EXCHANGE

PHILADELPHIA STOCK EXCHANGE

CHICAGO BOARD OF TRADE

Associate Members of

LIVERPOOL COTTON ASSOCIATION

FEBRUARY 22, 1918

HD 9074
B3

Copyright by H. F. Bachman & Co.

70 1111
1111111111

ESTABLISHED 1866

H. F. BACHMAN & Co.
BANKERS
61 BROADWAY, NEW YORK

FEBRUARY 21ST, 1918.

AVERAGE COST PRODUCTION 1917-18.....11.28¢ PER POUND
AVERAGE PRICE OBTAINED BY FARMERS.....27.50¢ PER POUND
AVERAGE NET PROFIT.....\$31.55 PER ACRE

At no time within the memory of this generation has there been so marked a variance of opinion as at present in the matter of the actual cost of producing cotton. In order that this cost might be scientifically and accurately determined, we requested our Watkins Bureau to make an exhaustive investigation of the elements entering therein. The figures in detail and the resultant averages are given in the report herewith presented. The investigation was conducted under the personal supervision of Mr. James L. Watkins, Sr.

The first investigation of this character ever undertaken was conducted by Mr. Watkins for the United States Government in 1896-97, while holding the position of Chief Cotton Statistician of the U. S. Department of Agriculture at Washington.

In submitting this report we are giving to the public the most accurate set of statistical facts that can possibly be obtained on this subject, prepared by one who has made a scientific study of conditions pertaining to cotton cultivation in every important producing county in the United States for the past twenty-five years. We trust that the information set forth will prove of interest and value not only to the farming community of the South, but to all classes of the cotton trade and manufacturing industries throughout the World.

It is, perhaps, an unfortunate fact, but a fact nevertheless, that war creates an abnormal industrial activity, and consequent

abnormal profits. It is commonly assumed that these profits are reaped almost entirely by manufacturing and distributing interests, and enjoyed in only a small measure by the agricultural population. This would indeed be an inequitable and oppressive situation were it really to exist, since it would mean added burdens upon the agriculturist, with no added means of bearing them.

The figures set forth in the following report dispel this assumption, and evidence a proportionate prosperity among the cotton growers of the country, and it is most fortunate for the national welfare that such should be the case. The country's need of a large cotton crop in the coming year is imperative, and it is idle to suppose that such could be raised without the likelihood of a reward at least reasonably commensurate with that reaped in other fields of endeavor. But the appended report shows that cotton raising is profitable, and would be even though the selling price were somewhat less than that now obtaining. The World's shortage of cotton is acute, and a large crop, even a huge crop, would be absorbed just as soon as an opportunity to move it along normal channels may be presented.

Under these circumstances there is every reason why the South, upon whose activity the national welfare so largely depends, should lend its full energy to the production of cotton in the coming season. Next to food, it is the patriotic duty of the Southern farmer to plant every available acre in cotton this Spring. Cotton is the greatest money crop on earth. It is gold everywhere. It is one of our greatest sinews of war and it will be one of our most valuable commercial assets after the conclusion of peace. The supply of cotton and cotton products has been almost completely exhausted in every country in Europe. When the freedom of commerce on the seas is again restored the demand for cotton will be practically insatiable as long as ships can be obtained to move it.

There is a shortage throughout the World of almost every necessity of life. The South has it within its power to prevent any shortage of clothing. The price is attractive enough to insure a handsome profit on every pound of cotton that can be produced. Not only the welfare of this Nation demands that every effort should be put forth to insure the largest possible

crop this year, but the welfare of mankind absolutely depends upon it. For this reason the farmer is entitled to every inducement which high prices and a reasonable profit may afford.

The present relatively high price of cotton is due not at all to speculation, for indeed there has been no speculation in cotton at any time during this entire season. The reason for high prices is perfectly plain. The total consumption of American cotton for the past three years was 42,696,000 bales, while the total production amounted to only 36,617,000 bales. The only possible remedy for this condition must come through a largely increased production.

Very truly yours,

H. F. BACHMAN & Co.

Dictated by
Mr. H. M. Peers.

JAMES L. WATKINS & SON
COTTON STATISTICAL BUREAU
OF
H. F. BACHMAN & CO.
61 BROADWAY NEW YORK

FEBRUARY 21ST, 1918.

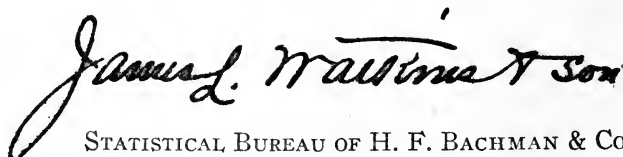
MESSRS. H. F. BACHMAN & Co.,
New York City.

DEAR SIRs:—

We have the honor of submitting herewith a report on the cost of cotton production in the United States during the season 1917. All of the data and information upon which our estimates are based were obtained from our County correspondents, numbering over 2,000, whose reports on all matters relating to the cotton crop we have, with over ten years' experience, found always reliable. Our correspondents were given full and explicit instructions as to the information desired, and they were followed with such good judgment that only a comparatively small number of reports had to be rejected, either on account of incompleteness, or where the data related to average years instead of the season 1917. No reports were rejected on account of high or low cost of cultivation or high or low price of cotton or of seed.

We take this occasion to return our thanks to our County Correspondents, without whose zealous assistance we could not have succeeded with this investigation, and we also wish to thank the Directors of the Experiment Stations who have furnished us with valuable information relating to the effect of fertilization upon the cotton crop of 1917.

Yours very truly,


STATISTICAL BUREAU OF H. F. BACHMAN & Co.

INTRODUCTION.

It may as well be understood at the very outset that the cost of producing a pound of cotton varies from year to year; not only so, but it varies in each State, in each County, and indeed the cultivated fields on the same plantation may produce varied results, or, as one of our Correspondents puts it, "the cost may differ as much as 5 cents per pound between two neighbors," and another that "I have between fifteen and twenty tenants and no two ever raised a crop of cotton at the same cost." No two farmers spend exactly the same amount of money, labor or skill in cultivating a cotton crop. Besides, no matter how intensive the cultivation, there are adverse weather conditions during the planting and growing season, diseases of the plant, the ravages of insects, early frosts, etc., one or more, or all of which may combine to cut down the yield, often leaving little or no profit and even a loss.

Aside from the investigation here undertaken, only two others relating to this question have ever been made on a scale at all commensurate with its importance. Both investigations were made by the United States Department of Agriculture, one for the season 1896-97 (the report upon which was prepared by the present writer), and the other for the season 1909-10, the report upon which was made by Mr. Nat C. Murray, Assistant Chief of the Bureau of Statistics. These three reports illustrate in the most striking manner how great the cost of production may vary at different periods. This variance is illustrated as follows, the figures being the averages for the United States:

Total average cost of producing cotton per acre in	
1896-97.....	\$15.42
Total average cost of producing cotton per acre in	
1909-10.....	20.35
Total average cost of producing cotton per acre in	
1917-18.....	34.76
Total average value of lint at 6.70 cents per pound,	
1896-97.....	17.13
Total average value of lint at 12.9 cents per pound,	
1909-10.....	31.60
Total average value of lint at 27.5 cents per pound,	
1917-18.....	53.49

Here we find that, as compared with 1896-97, the total cost per acre in 1909-10 increased about 32 per cent., and that the total cost in 1917-18, as compared with 1909-10, increased a little more than 70.5 per cent., while the increase in the cost of the two widest separated periods is more than 125 per cent. Similarly, a great variance is shown in the total value of the returns of lint per acre—unfortunately, the Government's report for 1909-10 made no allowance for the value of by-products, and hence comparisons can only be made with the returns of lint. The average number of pounds of lint returned in 1896-97 was 255.6; in 1909-10, 245 pounds, and in 1917-18, 194.5 pounds. The price of lint varied greatly, that for 1896-97 averaging 6.70 cents; that for 1909-10, 12.9 cents, and that for 1917-18, 27.5 cents per pound. This variance—each successive period showing a great increase—accounts for an increase of 92.8 per cent. in 1909-10, as compared with 1896-97, while an increase of 113.2 per cent. is shown in 1917-18, as compared with 1909-10.

The season covered by this investigation has been an extraordinary one in many respects. The average yield for the whole of the belt was one of the smallest on record, due to the lateness in planting on account of excessive rains and cold weather; to an abnormal deficiency in subsoil moisture in the Southwest; to the devastation of boll weevils and boll worms, and to the extremely early and repeated frosts in October. And yet there were many favored regions, many plantations that managed to gather full crops, and many others average crops or better. This report, as will be seen further on, reflects nearly every possible condition of culture, from the most advanced intensive system practiced in the Eastern section to the simple and slipshod methods in some other sections. It reflects likewise the results of the late crop; of the devastation of the weevil, and of the disastrous drought in the Southwest. So that upon examination we shall find many plantations reporting what would seem to be unreasonably high yields, and yet others yields so extremely low as also to seem unreasonable, some even reporting a total failure. Fortunately, whatever the yield, the price both for lint and seed was extraordinarily high, the former averaging 27.5 cents a pound and the latter about \$1.00 a bushel, and these extra high prices saved many a farmer

from loss, while many others, indeed the great majority, reaped a rich harvest.

THE COST OF PRODUCTION IN EACH STATE.

The table on the following page shows the average cost in each State, and the United States, of the various items necessary to the production of cotton per acre; the total cost of production; the returns per acre in lint and seed, with the value of the same; the cost of production per pound, and the net profit per acre.

The results of this investigation show that the average total cost of producing cotton per acre during the past season in the United States was \$34.76, and the average value of the returns, including seed, \$66.31, while the net profit per acre was \$31.55. The average yield for the plantations reporting was 194.5 pounds and the average price 27.5 cents a pound. The average yield of seed returned was 12.5 bushels and the average price of the same slightly more than \$1.00 per bushel, or the equivalent of about \$65.00 per ton. The average cost of producing upland cotton in all States was 11.28 cents per pound; the cost of Florida sea island was 16 cents per pound, while the Arizona long staple Egyptian was estimated to cost as high as 41.74 cents per pound—due to the very high cost of irrigation.

RENT OF LAND.

In some sections of the cotton belt it is the custom to rent lands for a money rental, in other sections the share system obtains, the share depending upon whether the landowner furnishes the tenant with everything necessary to make the crop, or whether the tenant furnishes himself. Sometimes the tenant partly furnishes himself, and hence gets a better share than if he depended altogether upon the landowner for his supplies. The general custom is either one-fourth, or one-third of the crop, according to the expenses borne by the landowner or tenant. The average rent for cotton lands in the United States last year was \$7.50. The highest rental charge was \$36.66 per acre reported from North Carolina, which was about one-fourth the value of lint and seed. Other high rental charges are \$30.00 in Georgia, \$30.00 in Arkansas, and \$26.50 in Texas. The low-

TABLE A.
COST PER ACRE OF ITEMS NECESSARY TO COTTON PRODUCTION IN 1917.

STATES.	Rent.	Fertilizer.	Prepara- tion.	Seed.	Planting Seed.	Cultiva- tion.	Picking.	Ginning.	Marketing.	Miscel- laneous.	Total Cost.
Virginia	5.00	15.00	5.00	1.00	1.00	10.00	7.00	2.00	3.00	1.00	50.00
North Carolina	10.70	10.77	4.84	1.44	1.30	6.97	6.89	2.12	1.15	1.23	46.41
South Carolina	7.38	12.69	3.88	1.49	.85	7.98	6.42	2.02	1.04	3.19	46.94
Georgia	8.32	5.88	3.53	1.41	1.25	6.89	5.45	1.49	.95	1.98	37.15
Florida	2.25	5.55	2.50	1.25	1.50	7.65	2.75	.98	.44	1.94	26.81
Alabama	4.85	3.88	3.78	1.45	.96	7.48	4.88	1.58	.92	1.06	30.34
Mississippi	6.28	2.89	3.37	1.55	1.00	8.54	5.14	1.80	1.01	1.52	33.10
Louisiana	6.10	3.18	3.14	1.18	.86	8.95	5.97	2.49	1.37	1.18	34.42
Texas	6.42	1.00	2.94	1.28	1.08	5.74	5.15	1.88	.92	.78	28.11
Arkansas	9.47	1.80	3.80	1.54	1.13	7.70	8.05	2.72	1.34	1.34	38.89
Tennessee	6.47	1.63	4.34	1.70	1.23	7.16	5.21	1.56	.68	.73	30.71
Missouri	10.37	....	3.03	1.19	.62	9.50	10.50	3.00	.62	.25	39.08
Oklahoma	8.41	.30	2.41	1.09	.83	6.02	6.68	1.68	.86	.92	29.20
California	18.75	2.50	5.50	.70	.75	8.00	18.12	2.50	.40	.50	52.72
Arizona	25.00	....	8.00	1.60	.50	29.00*	18.00	5.32	2.00	5.00	94.42
New Mexico	6.00.	....	2.00	1.50	.75	7.50	8.00	3.50	1.75	....	31.00
United States	7.50	3.87	3.44	1.38	1.06	7.06	5.88	1.90	.99	1.35	34.76

* Includes Irrigation.

STATES.	RETURNS PER ACRE.						COST PER POUND, AND PROFIT PER ACRE.						
	Lint Lbs.	Price per Lb. cts.	Value of Lint.	Seed Bu's.	Value of Seed.	Total Value.	Total Cost.	Value Received.	Net Cost Less Value of Seed.	Lint Yield in Lbs.	Net Cost Per Pound, Cts.	Value of Lint.	Profit per Acre.
Virginia	250	29	72.50	15	17.25	89.75	50.00	17.25	32.75	250	13.10	72.50	39.75
North Carolina	240	27.5	66.00	14.7	15.02	81.02	46.41	15.02	31.39	240	13.08	66.00	34.61
South Carolina	281	27	75.87	17.5	19.27	95.14	46.94	19.27	27.67	281	9.85	75.87	48.20
Georgia	206	27.6	56.65	14	13.81	70.46	37.15	13.81	23.34	206	11.33	56.65	33.31
Florida	112.5	37.5	46.25	5.5	6.85	53.10	26.81	6.85	19.96	112.5	17.74	46.25	26.29
Alabama	152	27.7	42.21	9.4	10.60	52.81	30.34	10.60	19.74	152	12.99	42.21	22.47
Mississippi	180	28	50.72	11.6	12.55	63.27	33.10	12.55	20.55	180	11.42	50.72	30.17
Louisiana	189.5	27.5	65.47	14	15.58	81.05	34.42	15.58	18.84	189.5	9.94	65.47	46.63
Texas	164.8	26.7	44.13	10.7	9.86	53.99	28.11	9.86	18.25	164.8	11.07	44.13	25.88
Arkansas	208	28.5	59.24	13.4	15.16	74.40	38.89	15.16	23.73	208	11.42	59.24	35.51
Tennessee	159	26	42.03	10	11.41	53.44	30.71	11.41	19.30	159	12.14	42.03	22.73
Missouri	203.5	29.2	59.42	15.7	13.95	73.37	39.08	13.95	25.13	203.5	12.35	59.42	34.29
Oklahoma	175.5	25.5	44.75	10.8	11.27	56.02	29.20	11.27	17.93	175.5	10.21	44.75	26.82
California	350	29.8	104.37	18.5	18.75	123.12	52.72	18.75	33.97	350	9.70	104.37	70.40
Arizona	190	75	142.50	14	15.12	157.62	94.42	15.12	79.30	190	41.74	142.50	63.20
New Mexico	225	25	56.25	12	15.00	71.25	31.00	15.00	16.00	225	7.11	56.25	40.25
United States	194.5	27.5	53.49	12.5	12.82	66.31	34.76	12.82	21.94	194.5	11.28	53.49	31.55

est rent was \$1.00 in each of the States of Georgia and Mississippi. The average money rental seems to range from \$3.00 to \$5.00.

COMMERCIAL FERTILIZERS.

Although the aggregate quantity of commercial fertilizers used on cotton lands last year was far below the normal—perhaps by 40 per cent.—many farmers in the Eastern section made liberal applications, and the returns almost without exception show the wisdom of this policy, the yield where this was the case ranging from 300 to 500 pounds and more to the acre. One report from North Carolina, for instance, shows \$25.00 per acre expended for fertilizer, the returns from which were a 500 pound bale and 35 bushels of seed per acre, the total value of which was \$160.00. The highest expenditures for fertilizers were \$30.00 per acre in each of the States of South Carolina and Texas, and \$25.00 in each of the States of North Carolina and Georgia. The lowest expenditures per acre were 50 cents in Arkansas and \$1.00 in each of the States of Louisiana and Oklahoma. The average for all States was \$3.87 per acre.

PREPARATION OF THE LAND.

The preparation of the land for planting consists in clearing the fields of stalks, etc., left from the old crop, breaking up the land and bedding it up into ridges. Although the average cost of this work in all States was only \$3.44 per acre, there are many examples of high cost showing the thorough preparation of the soil before seeding. North Carolina and Tennessee each spent as high as \$12.00, South Carolina, Alabama and Arkansas each \$10.00; while one Georgia farmer prepared his land at a cost of \$14.00 per acre. In Georgia, Alabama and Oklahoma the lowest cost was 75 cents in each State, while in Western Texas, where little or no preparation was made for seeding much of the fresh prairie lands of that section, the cost sometimes did not exceed 50 cents.

SEED FOR PLANTING.

Often high prices, even "fancy" prices are paid for seed cotton. Numbers of farmers in different sections throughout the belt devote themselves to the improvement and propagation of high grade seed, seed having such characteristics as seem best adapted to bring the best results in certain soils and climate, and boll weevil infested territory. Hence, we find planters paying as high as \$5.00 in Tennessee; \$4.00 in Mississippi and Texas; and \$3.00 in South Carolina, Georgia, Alabama, and Arkansas. As low as 40 cents was the cost of seed in Georgia and Oklahoma, while 50 cents was the cost in a number of other States. The average for all States was \$1.38, which, at the present price of seed, would indicate that about one-and-a-quarter bushels was the average quantity of seed planted to the acre.

PLANTING THE SEED.

The planting of the seed, which is done almost wholly by machines, is the second smallest cost among the items necessary to cotton cultivation, the average for the whole country being \$1.06 per acre. But in some cases the cost seems to be unaccountably high, for instance, \$5.00 in North Carolina and Georgia; \$4.00 in South Texas; and \$3.50 in Mississippi. The low cost of 25 cents per acre is noted in more than one-half of the States.

CULTIVATING THE CROP.

The cultivation of the crop consists chiefly in chopping or thinning out the plants to a "stand"; in repeated plowings and harrowings; also in repeated hoeings, all of which are carried on throughout the growing season and until the crop has reached that stage of maturity to be "laid by." On most well regulated cotton plantations the cultivation of the crop ordinarily involves a greater outlay than any other expenditure, and in normal times this is true as to the whole of the cotton belt. It happens, however, that the average in 1917 for all States, \$7.06 per acre, falls below the rental charge of \$7.50, the high rate of the latter

being due to the extraordinary price of lint and seed, giving the landowner who received a share of the crop an abnormally high allowance for rent. However, the expense of cultivation runs very high in some localities, not only giving evidence of following the most approved methods of culture, but also showing almost without exception, that the returns were liberal enough to justify the outlay. The highest cost of cultivation was \$20.00 per acre in each of the States of South Carolina, Georgia, Alabama, and Louisiana. The next highest was \$16.00 in North Carolina and Mississippi, followed by \$15.00 in Arkansas, Tennessee and Texas. The lowest expenditure was \$1.25 reported from Southwest Texas. The five States, South Carolina, Georgia, Louisiana, Arkansas, and Oklahoma, each report as low as \$2.00 per acre expended for cultivation.

PICKING THE CROP.

The ingenuity of man so far has failed in devising a successful cotton picking machine, so that we have still to depend upon the nimbler fingered whites or blacks to gather the crop. As the average amount picked per day is less than 150 pounds to the hand, the process is necessarily slow and it is often late in the winter and almost time to begin preparations for the new crop before picking is finally completed. The cost of picking is generally governed by the price of lint cotton, and as this was very high throughout the past picking season, the cost was proportionately high. The average price paid in all States for picking per acre in 1917 was \$5.88, which is just about the equivalent of \$1.00 per 100 pounds. This was the average for the season, or to January 1st, but as the price of cotton continued to advance from the opening of the season, the price for picking also advanced. The varying cost is illustrated by three reports from Georgia, one showing \$1.00 a hundred paid for picking 1,500 pounds, or \$15.00 to the acre; another \$1.25 per hundred for 1,200 pounds, or \$15.00 to the acre. There are reports of \$2.00 per hundred paid in Mississippi; \$1.60 in Louisiana; \$1.90 in Texas; \$2.14 in Arkansas; and \$2.20 in Oklahoma. On the other hand as low as 60 cents per acre is reported from Alabama, and 50 cents per acre from

Northwest Texas, but in both cases the yield per acre was small, the Alabama farm showing only 66 $\frac{2}{3}$ pounds, and the Texas farm 50 pounds, making the cost in each case approximately \$1.00 per hundred pounds.

GINNING AND PRESSING.

Under this heading is the preparation of the crop for market, which consists in ginning, pressing, and wrapping the bale with bagging and ties. There were approximately 23,000 ginneries engaged in this work last season, and their average charge in all States was 97 cents per hundred, or about \$4.85 for a 500 pound bale. This contrasts with a charge of \$3.35 per bale of 500 pounds in 1909-10, the increase of \$1.50 a bale being due to the increased cost of labor, bagging and ties. There are many reports much above the average, one from Louisiana being the highest or \$10.00 for 2,100 pounds, which is equivalent to a fraction over \$7.00 for a 500 pound bale. Of course in nearly all cases the ginner furnishes the bagging and ties, generally taking a toll of lint or seed for ginning, pressing and covering the bale. One report from Alabama is as low as \$2.25 a bale, but in this case the yield was only 66 $\frac{2}{3}$ pounds to the acre. Other States show low costs, ranging from 45 to 90 cents, but on each farm the yield was low.

MARKETING THE CROP.

The average cost per acre of marketing the crop of 1917 in all States was 99 cents, equivalent to about \$2.50 a bale. The highest cost was \$6.00 in Arkansas, followed by \$5.00 in each of the States of Georgia and Louisiana. In numbers of cases a charge of only 10 cents to the acre was made. Other low charges ranged from 20 to 50 cents to the acre. Of course on a great number of farms the cost amounts to nothing, as the farmer hauls his seed cotton to the public gin, sells it to ginner and that ends any further expense.

MISCELLANEOUS EXPENSES.

This item was included in the list of expenditures for the purpose of covering any and all other expenses that were not

enumerated. The correspondents' reports show that in most cases they have taken full advantage of the opportunity to include every other possible expense. Georgia reports as high as \$12.00 to the acre; Mississippi \$11.50; South Carolina \$10.50; North Carolina \$8.00; and each of the States of Florida, Alabama, Texas and Arkansas \$6.00, the other States showing ranges from \$3.00 to \$5.75. The lowest cost was 10 cents reported from each of the States of South Carolina, Texas (Northwest), and Arkansas. Other low charges range from 20 to 50 cents. The average for all States was estimated at \$1.35 to the acre.

TOTAL COST OF CULTIVATION.

We now come to the total cost of cultivation, and as might be expected in area embracing 34,600,000 acres, and with apparently every possible misfortune besetting the crop, the estimates show a very wide variation, running as low as \$8.65 in West Texas and as high as \$91.50 per acre in Georgia. The ranges for the principal cotton States are as follows: North Carolina, \$19.05 to \$83.46; South Carolina, \$25.50 to \$74.25; Georgia, \$13.35 to \$91.50; Florida, \$20.50 to \$36.00; Alabama, \$10.55 to \$48.50; Mississippi, \$13.80 to \$60.25; Louisiana, \$20.00 to \$68.85; West Texas, \$8.65 to \$79.05 in South Texas; Arkansas, \$17.85 to \$65.25; Tennessee, \$20.65 to \$39.15; Oklahoma, \$16.00 to \$69.80. The general average for all States was \$34.76, which is 125 per cent. greater than the cost in 1896-97, and 71 per cent. greater than the cost in 1909-10.

RETURNS PER ACRE.

Lint Yield. The average lint yield in 1917 for all States was 194.5 pounds to the acre. This apparently high yield may in part be explained by the fact that our correspondents represent the thriftier class of farmers. But even so, 194.5 pounds is incomparably low as contrasted with 255.6 and 245 pounds shown in the two Government reports, the first being 61.1 pounds or about 31.5 per cent. greater, and the second 50.5 pounds or 26 per cent. greater. But our correspondents have not failed to report very low as well as very high yields.

For instance, one farm in Central Texas returned only 25 pounds to the acre, and there were a large number of farms showing less than 85 pounds, the average under 100 pounds running all the way from 33 to 85 pounds. North Carolina reported as low as 57 pounds; Georgia and Florida each 65 pounds; Alabama 66 $\frac{2}{3}$ pounds; Tennessee 70 pounds; Mississippi 75 pounds; and Arkansas 85 pounds to the acre. The highest yield recorded was 700 pounds in Louisiana, the next highest 600 pounds in South Texas, followed by 500 pounds in several States, and below this a range of 200 to 450 pounds in the other States. Mr. C. K. McClelland, Agronomist of the Georgia Experiment Station, writes us, viz: "There are many farms near here (Experiment, Spalding Co., Ga.) averaging $1\frac{1}{4}$ to $1\frac{1}{2}$ bales per acre, and I have visited some fields where 2 bales were made over fields of some size. These yields have been made under the direction of good cotton farmers, and with liberal use of fertilizer."

Price of Lint. The price of lint takes a very wide range. In Georgia, Alabama, Texas, Tennessee, and Oklahoma the returns from some farms sold as low as 20 cents a pound; in South Carolina and Mississippi as low as 22.5 cents, and in the other States from 23 to 25 cents. Whether the lower prices were due to sales in the early part of the season when prices were lower, or to contracts made before the advance in prices, or to the low grade of the staple, is not stated. The higher prices ranged from 29 cents in Tennessee to 32 cents per pound in Alabama for upland, while 35 cents in Mississippi, and 37.5 cents were paid for long staple upland, 70 cents for Florida sea-island and 75 cents a pound for Arizona Egyptian. The average price for all States was 27.5 cents a pound.

The Value of Lint. The total value of lint per acre returned from all farms was \$53.49. As in the case of lint the values vary greatly, running as low as \$6.75 per acre in Central Texas, and \$16.25 in North Carolina. In the other States the lowest values run from \$17.55 in Georgia to \$34.80 in Louisiana. The highest value of lint per acre was \$210.00 in Louisiana, the next highest \$186.00 in South Texas. The high values in the other States range from \$70.00 in Alabama to \$150.00 in Georgia.

Seed and Its Value. The average returns of seed from all farms was 12.5 bushels to the acre, valued at \$12.82 or about \$1.00 per bushel. As low as $2\frac{1}{2}$ bushels to the acre were the returns from one farm in Central Texas, while the lowest returns from all other States ranged from 3 to 6 bushels. The highest returns were 35 bushels each from North Carolina and South Texas; 33 bushels from South Carolina; and 30 bushels from each of the States of Georgia and Arkansas. High yields from other States ranged from 23 to 27 bushels. The lowest value of seed per acre was \$1.44 reported from Alabama, and the next lowest \$1.60 from West Texas. The low values from other States ranged from \$3.00 in Tennessee to \$6.90 in Louisiana. The highest value of seed from one acre was \$50.00 in Louisiana, and the next highest \$40.00 in each of the States of South Carolina and Georgia. The high values from other States ranged from \$18.00 in Alabama to \$37.50 in each of the States of Arkansas and Oklahoma. The average value for all States was \$12.82 to the acre.

Total Value of Returns. The average total value of the returns of lint and seed on all farms was \$66.31 per acre. As in the case of all other values shown in this report the variations are conspicuous. The ranges in each State from the lowest to the highest are as follows: North Carolina, \$19.40 to \$178.00; South Carolina, \$42.55 to \$152.50; Georgia, \$23.00 to \$180.00; Florida, \$21.40 to \$117.00; Alabama, \$21.44 to \$88.00; Mississippi, \$26.25 to \$122.50; Louisiana, \$42.30 to \$260.00; Central Texas, \$8.50 to \$222.75 in South Texas; Arkansas, \$32.50 to \$172.50; Tennessee \$19.60 to \$129.05; Oklahoma, \$30.00 to \$108.10. In view of the great variation in the yield of lint and seed these figures, as great as is the range from lowest to highest, do not appear to be unreasonable.

COST OF PRODUCING COTTON PER POUND.

The results of this investigation show that after subtracting the value of the by-products from the cost per acre, the average net cost of producing a pound of cotton in the United States in 1917-18 was 11.28 cents. The highest cost was 13.10 cents per pound in Virginia. In a descending scale the cost in the other

States was as follows: North Carolina, 13.08 cents; Alabama, 12.99 cents; Missouri, 12.35 cents; Tennessee, 12.14 cents; Mississippi, 11.42 cents; Arkansas, 11.42 cents; Georgia, 11.33 cents; Texas, 11.07 cents; Oklahoma, 10.21 cents; Louisiana, 9.94 cents; South Carolina, 9.85 cents; California, 9.70 cents; New Mexico, 7.11 cents. It costs 17.74 cents to produce a pound of sea-island cotton in Florida, and 41.74 cents to make a pound of long staple Egyptian in Arizona—this very high cost, however, was due to the unusually high price paid for irrigation. In explanation of the low cost of production in Louisiana and South Carolina, as contrasted with the cost of the other large producing States, it is to be noted that the proportion of the total cost per acre to the total returns was only 42 per cent. in Louisiana, and 48 per cent. in South Carolina, as compared with well over 50 per cent. in most other States. Besides, the yield was high in both States, and each of these States produced better crops in 1917 than were made in any of the other States.

PROFITS ON ONE ACRE.

The average net profit per acre in all States in 1917 was \$31.55. The highest profit (excluding the smaller cotton States in the extreme West) was \$48.20 in South Carolina, and the next highest \$46.63 in Louisiana. In the order named the profits per acre in the other States were as follows: Virginia, \$39.75; Arkansas, \$35.51; North Carolina, \$34.61; Missouri, \$34.29; Georgia, \$33.31; Mississippi, \$30.17; Oklahoma, \$26.82; Florida, \$26.29; Texas, \$25.88; Tennessee, \$22.73; Alabama, \$22.47. The highest profit per acre in each State was: \$106.50 in North Carolina; \$118.00 in South Carolina; \$132.00 in Georgia; \$81.00 in Florida; \$68.00 in Alabama; \$92.00 in Mississippi; \$191.00 in Louisiana; \$162.75 in (South) Texas; \$117.00 in Arkansas; \$90.00 in Tennessee, and \$72.50 in Oklahoma. Among the smallest profits reported were 10 cents in Alabama; 35 cents in North Carolina; \$7.60 in South Carolina; \$3.65 in Mississippi; \$7.60 in Louisiana; .05 cents in (West) Texas; \$5.25 in Arkansas; \$2.35 in Tennessee; \$2.00 in Oklahoma. Three farms in Georgia reported a loss, the lowest being 50 cents and the highest \$13.00 to the acre. There were losses reported from other States as follows: Florida, one loss of

\$5.50; Alabama, three losses, 50 cents, 90 cents and \$7.00; Texas, eight losses, in the Central section 55 cents, 70 cents, \$1.80 and \$8.10; in the Western section \$1.22 and \$7.32; in Southern section 38 cents, and in Southwestern section \$5.60; Arkansas, one loss, \$17.42; Tennessee, two losses, \$3.87 and \$11.80. The States reporting no losses were the two Carolinas, Mississippi, Louisiana and Oklahoma.

CONCLUSION.

What are the conclusions to be drawn from this investigation? Is it not clear enough that at $27\frac{1}{2}$ cents a pound for lint, and \$1.00 a bushel for the by-product—giving the farmer an average net profit of \$31.55 per acre—that cotton is a very profitable crop? Indeed, even with the increased cost of labor and all the other items of expense, cotton growing is profitable when sold at 20 cents a pound. One farm in Oklahoma, where the expense of cultivation was \$23.00 to the acre and the returns were 150 pounds of lint and $8\frac{1}{3}$ bushels of seed, reports the sale of the crop at 15 cents a pound for the lint and 90 cents a bushel for seed, and even at this low price the returns gave the farmer a net profit of \$14.50 an acre. There are numbers of cases showing good profits where the crops sold for 20 cents a pound. The following few instances may be cited: South Carolina, yield 300 pounds to the acre, profit \$25.60; Georgia, yield 500 pounds, profit \$53.50; yield 300 pounds, profit \$53.00; yield 250 pounds, profit \$47.20; yield 100 pounds, profit \$23.70; Alabama, yield 160 pounds, profit \$24.30; East Texas, yield 125 pounds, profit \$6.50; West Texas, yield 100 pounds, profit \$23.35; Southwest Texas, yield 125 pounds, profit \$24.00; Tennessee, yield 200 pounds, profit \$39.50; Oklahoma, yield 250 pounds, profit \$44.05; yield 140 pounds, profit \$21.50. Of course in most of such cases the cost of cultivation was below the average, but the fact seems clearly established that at 20 cents cotton was a profitable crop.

But there is no argument needed to convince the South of this fact, and although some sections have sustained losses by drought and boll weevils, the great majority of cotton farmers, in spite of the unprecedented low yield, have had a prosperous

year, indeed such as has not been experienced in more than a generation. What will be the effect of this upon the planting of the coming crop?

It must not be supposed that the Southern cotton planter does not understand the situation. He does understand it. There are economists and wise men among them as there are in other great industries, and they have studied conditions from every standpoint. They know they have had three poor crops in succession; that the stocks of cotton all over the world are far below requirements; they know that whether the European war lasts one year or a half dozen years the demand for cotton will increase rather than diminish, and that high enough prices will be maintained to insure them extra good profits for some years to come; they know that immediately peace is in sight the Central Powers will be in the market for every available bale of cotton that can be bought; they know that Great Britain, heretofore dominating the cotton goods markets of the world, will never yield this position so long as cotton can be had to keep her spindles and looms at work; they know that the price of silver has increased greatly, and that the purchasing power of the inhabitants of the silver using countries of South America and the Orient will be proportionately enhanced, and that this means an increased demand for cotton goods; they know the wonderful strides the United States has made in pushing her cotton goods trade into South American markets hitherto monopolized by Great Britain and Germany, and that every possible effort will be made by our manufacturers to hold this trade after the war; they know, in spite of Japanese efforts at monopoly, the wonderful possibilities opening up to the cotton trade in the Great Republic of China; they know that the uses made of the cotton fiber are continually increasing; they know that the world's cotton spindles are increasing every year, and that when peace comes a tremendous impetus will be given to cotton consumption all over the world.

With such knowledge would it be surprising if the cotton planters of the South came to the determination to plant the very largest crop it is possible for them to cultivate?

Even with the spindles of Central Europe shut down, the balance of the world is consuming American cotton at the rate

of 13½ to 14,000,000 bales annually. The largest cotton acreage ever harvested was 37,089,000 acres in 1913, which yielded a crop of 13,983,000 bales; the next largest was 36,832,000 acres harvested in 1914, and this yielded 15,906,000 bales. Therefore, should the war continue through 1918, to insure an adequate supply of cotton the present acreage (34,600,000 acres) should be increased by no less than 10 per cent. Even this with an average yield would, (exclusive of linters) give a crop of only 14,800,000 bales, when in reality there should be a carry-over of at least two million bales. But suppose peace should come before the close of the year? In that case it would necessitate the planting of over 40 millions of acres, and an average yield from this area would barely meet the world's requirements.

We believe we have conclusively demonstrated that cotton planting, even with the prevailing high cost, is extremely profitable:

That there is an imperative demand for a crop of not less than 14 million bales—exclusive of linters:

That to produce a crop approximating this quantity it is absolutely necessary to increase the acreage this Spring no less than 10 per cent.:

We believe that the cotton planters fully appreciate these facts, and that when planting time comes they will have prepared every available acre to be seeded to cotton.

Just here it is worth while to quote the following from a letter received from one of the most prominent wholesale merchants and cotton factors in Louisiana. He writes:

"A good deal of cotton was sold for around 20 to 25 cents, and some of course reaching the limit of 30 cents. At the same time the negroes never had so much money, and all the farmers cleared quite a sum, and while we have been in business here thirty-seven years we have never had such satisfactory collections, nor have our books ever been so clean of old time carry-over accounts. So that we are quite disposed to figure a handsome profit at the prevailing average prices on the actual cost of production for 1917."

COMPARATIVE COST OF ITEMS REQUIRED TO MAKE COTTON
1917-1914.

In connection with the high and increased price of cotton, it is interesting to compare the present price of some of the items necessary to cotton production with the price before the beginning of the European war. In the table below we have compiled from data furnished by our Correspondents, statistics showing the average price of such items in each State and for all States, and the percentage increase of each item. An examination of the table discloses a marked increase since 1914 in all of the items. Of the implements enumerated single and double horse plows have increased, respectively, 67.8 and 73 per cent. Bagging per yard has increased 60 per cent., and ties per pound 113.2 per cent. The average price of plantation mules is now \$212.70 as compared with \$156.10 in 1914, an increase of 36 per cent. Fertilizers most commonly used have increased from \$20.27 to \$37.70, or 86 per cent. Plantation bacon now sells for 31½ cents as against 13 cents, an increase of 142.3 per cent., while corn meal is worth \$2.00 per bushel as compared with \$1.08, an increase of 85 per cent. Day labor has advanced from a fraction over 78 cents to slightly over \$1.42, an increase of 81 per cent., while labor by the month has increased from \$16.11 to \$29.31, or 82 per cent. Cotton picking per 100 pounds has advanced in almost the same ratio—from 59 cents to a fraction over \$1.16 cents a hundred, or about 80 per cent.

TABLE B.

COMPARATIVE COST OF NECESSARY ITEMS IN COTTON CULTIVATION, 1917-1914.

STATES	SINGLE HORSE PLOWS.		DOUBLE HORSE PLOWS.		TWO HORSE WAGONS.		PLANTATION HOES.		PLANTATION MULES.		BAGGING PER YARD.		TIES PER POUND.	
	1917	1914	1917	1914	1917	1914	1917	1914	1917	1914	1917	1914	1917	1914
North Carolina.....	\$ 5.00	\$ 3.45	\$ 8.35	\$ 5.35	\$ 65.00	\$ 47.50	Cts.	Cts.	\$ 291.65	\$ 216.65	Cts. 12¾	Cts. 8½	4½ ₁₀	1½
South Carolina.....	9.50	4.50	18.65	8.85	83.35	46.65	.65	.30	301.65	166.65	14¾	8	4¾	2
Georgia	8.35	5.00	14.85	9.00	100.00	72.50	.65	.40	275.00	185.00	14½ ₁₀	9	4¾	1½
Alabama	9.50	5.00	17.00	10.00	118.75	60.00	.77	.41	181.25	112.50	14½	7¾	5½ ₁₀	2½ ₁₀
Mississippi	5.00	2.50	20.00	10.00	87.50	57.50	.85	.50	175.00	175.00	13	8½	5½	2
Louisiana					95.00	57.95	.82	.50	205.00	175.00	13½	8½	4½	1½
Texas	7.50	4.35	17.85	11.25	125.00	80.00	.94	.60	200.00	146.25	14	8½	6¾	3¾
Arkansas	12.00	8.00	20.00	10.50	100.00	60.00	.77	.48	205.00	125.00	15	10¼	5	2½ ₁₀
Tennessee	10.00	5.50	18.00	9.50	85.00	60.00	.50	.35	175.00	135.00				
Oklahoma			70.00	40.00	120.00	100.00	1.00	.50	150.00	150.00				
Missouri.....	20.00	14.00	20.00	19.00	100.00	82.50			180.00	130.00	17	11	7½	2½
Average.....	\$9.65	5.81	23.07	13.85	98.15	65.87	.67	.45	212.70	156.10	14¾	8¾	5½	2½
Per Cent. Increase 1917-1914.....	67.8	.....	73.0	.....	49.0	.....	49.0	.....	36.0	.....	60.0	.....	113.2	.....

STATES	FERTILIZERS, PER TON.		BACON, PER POUND.		CORN MEAL, PER BUSHEL.		LABOR BY THE DAY.		LABOR BY THE MONTH.		PICKING COT- TON PER 100 POUNDS	
	1917	1914	1917	1914	1917	1914	1917	1914	1917	1914	1917	1914
North Carolina.....	\$ 42.17	\$ 22.75	Cts. 31¾	Cts. 14½	\$ 2.25	\$ 1.16¾	\$ 1.16¾	.88½	30.33½	17.66½	.81¾	.43½
South Carolina.....	50.00	21.00	27¾	9	2.25	.90	1.25	.50	29.15	13.75	.88½	.43½
Georgia	32.50	22.15	30½	13¾ ₁₀	.....	.....	1.06¼	.62½	23.12½	14.25	.80	.43½
Alabama	31.45	17.15	32¾	10½	.....	.....	1.25	.56¼	27.50	11.87½	.95½	.50
Mississippi	42.50	22.00	35	15	.....	.....	1.50	.75	.....	.....	1.50	.75
Louisiana	35.00	21.00	27½	14¼	.....	.....	1.80	.70	.....	.....	1.00	.50
Texas	34.65	21.65	34¾	13¾	2.00	.85	1.68¾	1.06¼	35.00	21.25	1.36½	.74½
Arkansas	40.00	22.00	31	9	.....	.....	1.75	.87½	35.00	19.00	1.31¼	.55
Tennessee.....	31.00	12.75	31	12¾	1.50	1.10	1.50	.75	25.00	15.00	1.00	.75
Oklahoma.....			30	17½	2.00	1.40	1.75	1.20	.....	.....	2.00	.80
Missouri.....												
Average.....	37.70	20.27	31½	13	2.00	1.08	1.42½ ₁₀	.78¾	2 31	16.11	1.16¾	.59
Per Cent. Increase 1917-1914.....	86.0	.....	142.3	.....	85.0	.....	81.0	.....	82.	.....	80.0	.....

COST OF PRODUCTION AND RETURNS PER ACRE IN TEXAS.

Texas is so great a cotton producing State—sometimes making one-fourth of the entire crop—its climate so erratic, its soil so variable, its methods of culture so lacking in uniformity, that the statistics in the following table may prove of some interest. The table shows the average cost of producing cotton per acre, and the returns per acre, in each of the seven subdivisions of the State, and throws considerable light upon economic conditions in the different sections so far as relates to cotton culture in 1917-18.

TABLE C.
COST OF PRODUCTION AND RETURNS PER ACRE IN TEXAS, 1917.

ITEMS OF COST PER ACRE.								
Sub-Divisions.	Rent.	Fertilizers.	Preparing Land.	Seed.	Planting Seed.	Cultivation.	Picking.	Ginning.
North Texas.....	\$9.42	.....	\$2.82	\$1.12	\$0.76	\$5.86	\$7.75	\$2.05
East "	7.84	2.39	3.29	1.12	1.22	7.36	5.17	1.93
Central "	7.23	.58	3.06	1.54	0.94	5.97	4.11	1.69
North-West Texas....	5.78	.....	2.19	.87	0.88	4.17	4.05	1.65
West "	3.88	.....	1.93	1.01	0.75	3.47	1.69	1.15
South "	9.72	1.86	3.69	1.85	1.36	6.53	7.30	2.66
South-West "	5.13	.....	2.25	1.18	0.78	3.23	3.33	1.28
State Averages.....	6.42	1.00	2.94	1.28	1.03	5.74	5.15	1.88

Sub-Divisions.	ITEMS OF COST CONTINUED.			RETURNS PER ACRE.					
	Market- ing.	Miscella- neous.	Total Cost.	Lint Cotton, Pounds.	Price of Lint, Cents.	Value of Lint.	Seed, Bushels.	Value of Seed.	Total Value.
North Texas.....	\$0.88	\$0.66	\$31.31	198.0	26.4	\$52.42	12.0	\$12.63	\$65.05
East "	1.00	0.85	31.86	158.4	26.8	42.72	9.5	9.61	52.33
Central "	0.62	0.78	26.72	128.6	27.0	34.72	11.0	8.81	43.53
North-West Texas....	0.74	0.34	20.74	124.6	25.0	31.27	7.0	7.09	38.36
West "	0.33	0.30	14.51	58.5	24.6	14.92	3.6	3.80	18.72
South "	1.10	1.12	37.33	279.0	27.5	77.00	18.3	15.14	92.14
South-West "	0.99	0.86	19.06	114.2	25.3	23.83	7.0	7.17	36.00
State Averages.....	0.92	0.78	28.11	164.8	26.7	44.13	10.7	9.86	53.99

EFFECT OF FERTILIZERS ON THE CROP OF 1917.

It was the common belief, in which we also shared, that the lack of sufficient potash in the commercial fertilizers applied to the cotton lands, was largely responsible for the small yield last year, as well as the two previous years. Three poor crops in succession, with little or no potash in the restricted amount of fertilizers used, naturally led to this conclusion. We had been led to believe that there were extensive bodies of cotton lands that could not make successful crops without potash. We felt, however, that we needed authoritative and scientific advice on the subject and we therefore sought the opinion of the Directors of the Experiment Stations in the cotton States. The following are extracts from the letters of some of the Directors who favored us with their views:

AUBURN, ALA.—Alabama Polytechnic Institute.—“In answer to your first inquiry I would say that the most common fertilizer formula for cotton prior to the European War contained about 2 per cent. of potash. In subsequent years there has been used a little fertilizer containing 2 per cent., probably from supplies of potash left over the preceding year, probably a larger amount containing 1 per cent. of potash and probably still more containing either no potash or only the extremely small amount carried in the cotton-seed meal or other source of ammoniates. Those who have studied the question are by no means agreed whether this decrease in the average percentage of potash in fertilizers for cotton has any very important relation to the decrease in yield from this crop, since this factor is complicated with the other factors of unusual weather conditions in the past two years, increased extent of weevil infected territory, and a decrease in the supply of labor. On the whole, students of the agricultural situation are, I believe, inclined to think that the average production of cotton per acre has been less influenced by the decreased use of potash than might have been expected. In Alabama where other causes, and possibly this also has resulted in an extreme decrease in the cotton crop, the cotton plant has suffered on the average somewhat less from potash hunger by reason of the fact that much of the gray, sandy land in which the need for potash is

greatest, has this year been devoted to peanuts rather than cotton. In other words, I think that the cotton crop of 1917 in Alabama was on the average planted on land in which the natural supply of potash averages somewhat better than on the larger area of land devoted to cotton in this State a few years ago."—J. F. DUGGAR, Director.

GAINESVILLE, FLA.—College of Agriculture.—"I think you are mistaken when you ascribe the low cotton production in the Southern States to potash rather than to the weevil invasion. The absence of potash undoubtedly cuts down the yield of cotton in the South, but certainly has no effect comparable to that of the boll weevil. Much of the cotton land of the South is fairly well supplied with potash. I have seen potash experiments conducted in cotton fields where there was no perceptible difference in yield between the plots receiving potash and those receiving no potash. There are lands, however, in the South so low in potash that a very small addition of this element makes a marked improvement in the plant and a marked increase in the yield. There was never any very definite percentage of potash used in the cotton fertilizer. The 10-2-2 goods was probably the most popular among the cotton planters; this contained 10 per cent. phosphoric acid, 2 per cent. potash, and 2 per cent. ammonia. On the other hand, a very large number of cotton growers in the coastal plains made it a regular practice to apply Kainit, this as you know contains from 12 to 14 per cent. of potash. Many of them used this as the only fertilizer that was applied to the cotton. Others used the 10-2-2 goods and then made an after application of Kainit. If the only disturbing factor in cotton production were the shortage of potash, this would certainly not reduce the total amount produced, the higher price of the cotton would more than counteract the effect of potash shortage."—P. H. ROLFS, Dean and Director.

RALEIGH, N. C.—Agricultural Experiment Station.—"In the main cotton growing section of our State the fertilizers contained 2 to 4 per cent. potash in the pre-war period, the average being fully 3 per cent. Since the war has been in progress this amount has been more than cut half in two; possibly not more

than one-fourth or one-third has been used. Next to nitrogen or ammonia, potash is the most influential fertilizer in cotton production, and I am sure that the reduction of the amount of potash in fertilizers has greatly decreased the yield of cotton. The prospects are for a larger supply of potash for fertilizers this season, but the cost is high, five to six times as much as formerly, but there will be a considerably larger quantity used this year than in the past two years. I would estimate that around one-half the normal quantity will be used this season in cotton fertilizers."—B. W. KILGORE, Director.

EXPERIMENT, GA.—Georgia Experiment Station.—"It is a little too early yet (date Dec. 14, 1917) to connect up the short crop of the past three years with the potash shortage. I have not the statistics at hand, but if the short crop can be laid at the feet of the Southeastern States alone, where potash is especially needed and used, well and good, but if the shortness is general for the cotton belt, and I think it is, then it can hardly be laid to the lack of potash. The sandy lands of the coastal plains of our own State do need potash, but lands of the Piedmont country require very little if any, and those of North Georgia still less. This year for the first time we have noticed spots in different fields where there was a rust or sickness, due partly to true rust no doubt, but in some instances to red spider, and in some instances to potash hunger. On the other hand, though this is the third year in which we have been short of potash, the very best crops for the three years in this section of the State have been made this past year. There are many farms near here averaging $1\frac{1}{4}$ to $1\frac{1}{2}$ bales per acre, and I have visited some fields where 2 bales were made over fields of some size. These yields have been made under the direction of good farmers and with liberal use of fertilizer, Providence furnishing a better growing season. It is true there has been more reduction in yield than in acreage over the cotton belt as a whole, and if low yields continue to be made—in the Southeastern States especially—we must then conclude that lack of potash had something to do with it. It may be that our good crops were this year made from potash of previous years' application; time alone can straighten us out. We do know that potash has shown

good results in all experiments, especially on the lighter soils, but so far at least we are making good cotton without it. Before the war, fertilizers analyzing 10-2-2 were very commonly used on our clay lands here, 9-2-2 to an equal extent probably, while on the sandy soils which require more of both nitrogen and potash, 9-3-4 were very commonly used (the last numeral gives per cent. of potash). Now it is possible to get mixed goods with .5 to 1.5 per cent. potash, but the potash element being so high few are buying that mixture. Our large farmers buy acid phosphate and cotton seed meal, and use only such potash as is in the meal."—C. K. McCLELLAND, Agronomist.

AGRICULTURAL COLLEGE, MISS.—A. and M. College.—"In this State no data are available to show that decreased production is ascribable in any degree to the difficulty of obtaining adequate supplies of potash. On the other hand, it may be stated that experiments, carried on by our experiment station here a good many years ago, were strong in their indication that potash salts were of doubtful benefit as fertilizer material for the cotton crop. It is well known, of course, that Kainit, and perhaps other potash salts also, tend to prevent the blighting of cotton. I cannot say to what extent blight is ordinarily prevalent. I do not believe that losses by blight are by any means comparable to those resulting from the depredation of boll weevils."—W. F. HAND, State Chemist.

CLEMSON COLLEGE, S. C.—Clemson Agricultural College.—"Our fertilizer tests indicate that potash is a very important factor in the production of cotton in the Southern counties of this State. In fact our tests indicate that a percentage as high as 6 per cent. is advisable on some of these soils. In the Piedmont section on the heavy clay soils we get very little results from the use of potash. It may be interesting for you to review your statistics in the light of this information, and find if the same falling off is noticed in the upper Piedmont as in the Pee Dee section. I should indeed be interested to know what the result of such a study will show you."—T. E. KEITT, Chemist.

FAYETTEVILLE, ARK.—Agricultural Experiment Station.—
“Prior to the war the average grade of commercial fertilizers contained about 2 per cent. potash. Most manufacturers of fertilizer now in the State do not carry potash at all. Of course, we expect almost no relief until the war closes. Fortunately for this State, we do not need potash as much as we need nitrate and phosphoric acid.”—MARTIN NELSON, Dean and Director.



**UNIVERSITY OF CALIFORNIA LIBRARY
BERKELEY**

**Return to desk from which borrowed.
This book is DUE on the last date stamped below.**

16 JUN 1968

10 JUN 1968

LD 21-100m-9,'48(B399s16)476

H. F. BACHMAN & CO.
New York and Philadelphia

Gaylord Bros
Makers
Syracuse, N. Y.
PAT. JAN. 21, 1908

YC 85650

415324

UNIVERSITY OF CALIFORNIA LIBRARY

